

Work Order ID 61819

Tuesday, September 07, 2010 12:46:02 PM



Page 1

Item ID: D4101-1

Accept



Setup Start



Revision ID:

Item Name: Bracket

Stop



Start Date: 9/7/2010 Start Qty: 20.00



Cust Item ID:

Required Date: 10/13/2010 Req'd Qty: 20.00



Customer:

Reference:

Approvals:

Process Plan:

M

Date:

10-9-07

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D4101

B

100

Cut blanks as per folio

0.00



Bandsaw

Memo

0.00

cut 10/11/04

20

0

Jeaspa Bandsaw

5.00" LONG

110

0.00



HAAS 1

Memo

0.00

SL 10/11/11

HAAS CNC vertical machine #1

Mill as per dwg and Folio FA947

DEBURR

120

QC2- Inspect parts off machine FAI/FAIB

0.00



QC

Memo

0.00

SL 10/11/11

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 61819

Tuesday, September 07, 2010 12:46:02 PM

Page 2

Item ID: D4101-1

Accept

Revision ID:

Item Name: Bracket

Start Date: 9/7/2010 Start Qty: 20.00




Required Date: 10/13/2010 Req'd Qty: 20.00

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130  QC Quality Control	QC8- Inspect parts - second check Memo <i>sh</i>	0.00 0.00 <i>10/11/11</i>				<i>20</i>	<i>0</i>		
140  HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.00		<i>=> 10/11/12</i>		<i>20</i>	<i>9</i>		
150  QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00				<i>10</i>	<i>11</i>	<i>12</i>	<i>20</i>

W/O:		WORK ORDER CHANGES					
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Work Order ID 61819

Tuesday, September 07, 2010 12:46:02 PM

Page 3

Item ID: D4101-1

Accept

Revision ID:

Item Name: Bracket

Start Date: 9/7/2010 Start Qty: 20.00

Required Date: 10/13/2010 Req'd Qty: 20.00

Reference:

Cust Item ID:

Customer:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160



Packaging

Packaging

Identify as per dwg & Stock Location: Sylver

0.00

Memo

0.00

170



QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

10/14/12 (20)

10/11/15

10-11-12
(20)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Picklist Print

Tuesday, September 07, 2010 12:46:07 PM

Page 1

Work Order ID: 61819



Parent Item: D4101-1



Parent Item Name: Bracket

Start Date: 9/7/2010

Required Date: 10/13/2010

Start Qty: 20.00

Required Qty: 20.00

Comments: IPP REV:A NEW ISSUE 10-07-11 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6B2.000X04.50 0		Purchased	No			100	f	19.6242	0.416	8.757895			



6061T6 Bar 2.00 x 4.500

Location

Loc Qty

Loc Code

MAT08

19.62421

112330

19.62421

8.7578 on 10/11/09

W/O:		WORK ORDER CHANGES					
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NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	61819
Description: bracket		Part Number:	D4101-1
Inspection Dwg: D4101 Rev: B		Page 1 of 2	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
.06x45°	±.030 ±.5°	.07x45°	✓		Vern. SL-3	
1.80	±.030	1.802	✓		"	
1.13	±.030	1.25	✓		R-G	
4.00	±.030	3.999	✓		"	
4.75	±.030	4.748	✓		"	
.13x45°	±.030 ±.5°	.130x45°	✓		"	
1.18	±.030	1.181	✓		"	
.78	±.030	.780	✓		"	
.94	±.030	.935	✓		H-G	
1.02	±.030	1.018	✓		Vern. SL-3	
.30	±.030	.304	✓		"	
.68	±.030	.679	✓		H-G	
.28	±.030	.280	✓		Vern. SL-3	
.60	±.030	.598	✓		"	
.400	±.010	.397	✓		"	
10°	±.5°	10°	✓			
.286	±.010	.285	✓		gauge pin	
.51	±.030	.510	✓			
.40	±.030	.416	✓		Vern. SL-1	
1.06	±.030	.060	✓		R-G	
.40	±.030	.398	✓		H-G	
.075	±.010	.072	✓		Vern. SL-3	
R.25	±.030	.250	✓		R-G	

Measured by:	SL
Date:	10/11/09

Audited by:	SL
Date:	10/11/11

Prototype Approval:	N/A
Date:	N/A

Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/JLM	

DART AEROSPACE LTD		Work Order:	61819
Description:		Part Number:	D4101-1
Inspection Dwg:	Rev:	Page 2 of 2	

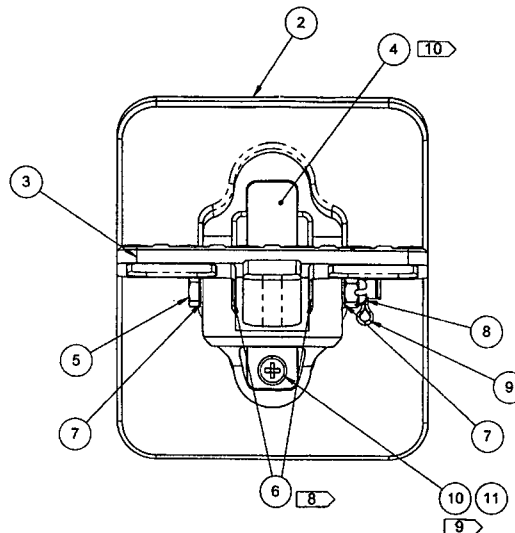
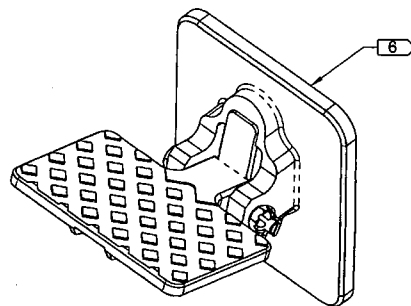
FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø.257	+0.006 -0.001	.258	✓		"	
.950	±.010	.948	✓		"	
.350	±.010	.355	✓		"	
5.06	±.030	.060	✓			
.350	±.010	.350	✓		H-G	
.850	±.010	.850	✓		REN J1-3	
5.13	±.030	.125	✓			
.286	±.010					
.49	±.030	.488	✓		"	
1.05	±.030	1.060	✓		"	
.255	±.010	.256	✓			
1.00	±.030	1.00	✓			
.670	±.010	.669	✓			
5.38	±.030	.380	✓			
1.35	±.030	1.350	✓			
.38	±.030	.370	✓			
5.130	±.030	.125	✓			
5.500	±.010	.500	✓			

Measured by: <u>SL</u>	Audited by: <u>SL</u>	Preliminary Approval:
Date: 10/11/09	Date: 10/11/11	Date:

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

10.04.15



D4101-041 PRE-FLIGHT STEP ASSEMBLY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: NONE
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4101-041" USING FINE POINT PERMANENT INK MARKER BACK SURFACE
- 7) WEIGHT: 1.18 lbs
- 8) INSTALL NAS1149D0432J WASHER IN BETWEEN STEP AND BRACKET MATING FACES
- 9) TORQUE AN525832R SCREW TO 15-25 in-lb
- 10) TEXTURED SIDE TO BOTTOM

ITEM	QTY	PART NUMBER	DESCRIPTION
1	X	D4101-041	PRE-FLIGHT STEP ASSEMBLY
2	1	D4101-1	BRACKET
3	1	D4101-3	STEP
4	1	D4101-5	SPRING
5	1	AN4-22	BOLT
6	2	NAS1149D0432J	WASHER
7	2	NAS1149D0463J	WASHER
8	1	AN310-4	NUT
9	1	MS24665-136	COTTER PIN
10	1	AN525-832R6	SCREW
11	1	MS21209C0815	HELICOIL

SHOW COPIES
RETURN TO
ENGINEER
UNCONTROLLED COPY
SUBJECT TO AND
WITHOUT
WORK ON
NO. 61869
BS10-2-07

RELEASED
2010-08-23

B	NAS1149D0432J WAS NAS1149D0416J (ZN D3-1); ADD SCREW AND HELICOIL (ZN D3-1& B1-3); RE-DESIGN D4101-5 (ZN B4-5)	RF	10.08.05
A	NEW ISSUE	RF	10.07.12
REV.	DESCRIPTION	BY	DATE
DESIGN	RF		
DRAWN	RF		
CHECKED	<i>[Signature]</i>		
MFG. APPR.	<i>[Signature]</i>		
APPROVED	<i>[Signature]</i>		
DE APPR.	<i>[Signature]</i>		
DATE	10.08.05		

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. **D4101** REV. B
SHEET 1 OF 5

TITLE **PRE-FLIGHT STEP ASSEMBLY** SCALE NTS

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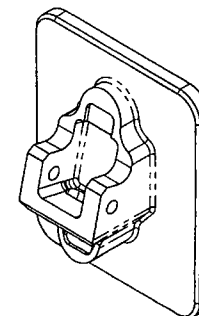
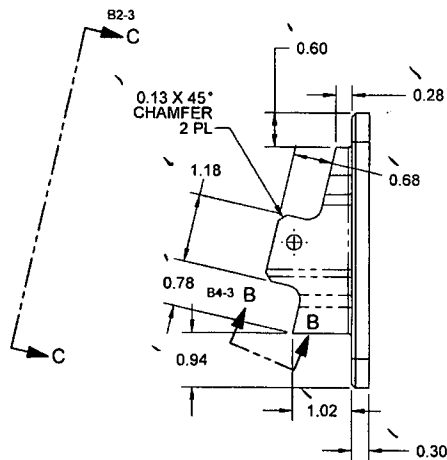
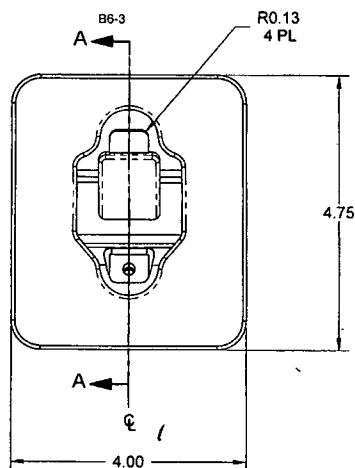
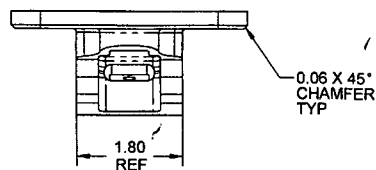
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D4101-1 BRACKET

NOTES:

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)
OR ASTM B211 OR ASTM B221
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.85 lbs

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MFG. APPR.	<i>[Signature]</i>	D4101	SHEET 2 OF 5
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	PRE-FLIGHT STEP ASSEMBLY	NTS
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2010-08-23

WLC 41819

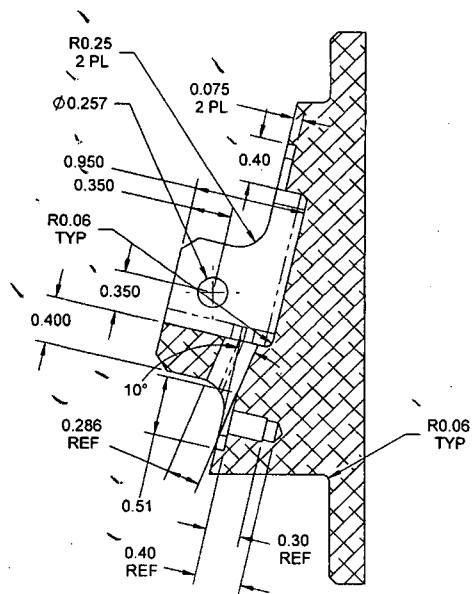
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

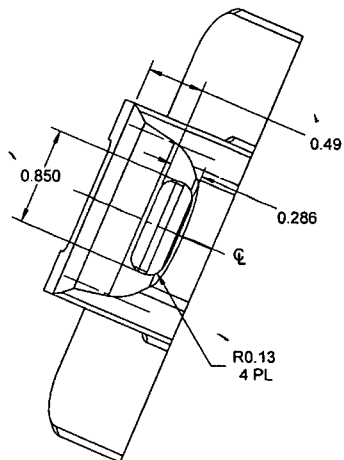
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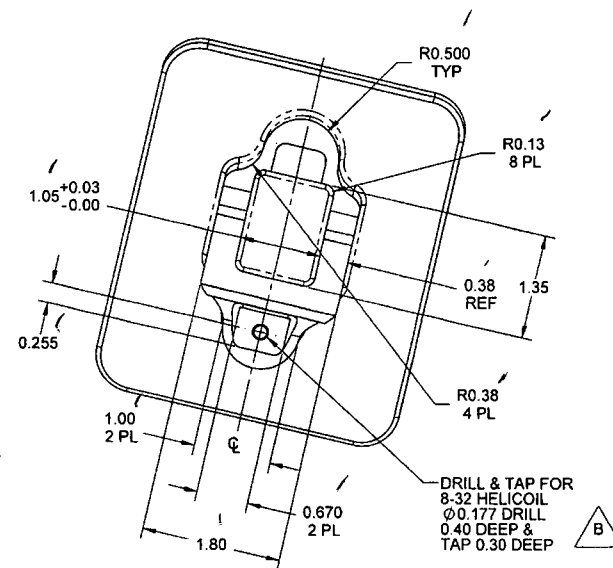
NOTE: Date & initial all entries



SECTION A-A C7-2
SCALE 2X



VIEW B-B C4-2
SCALE 2X



VIEW C-C D4-2
SCALE X1.5

W6 41819

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2010-08-23

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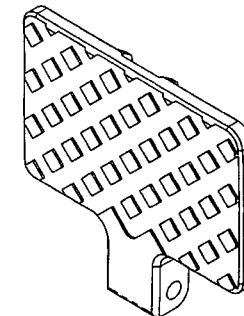
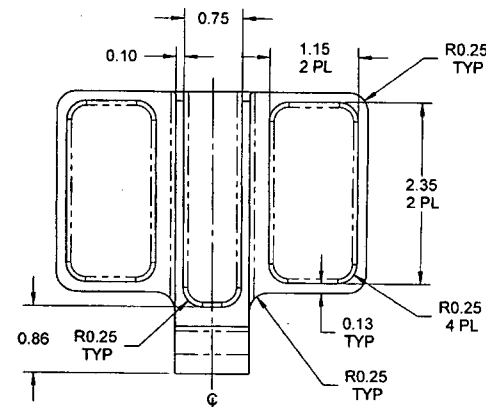
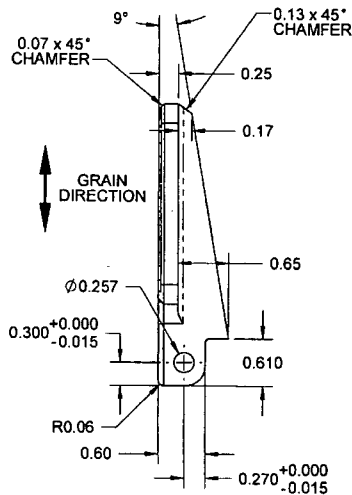
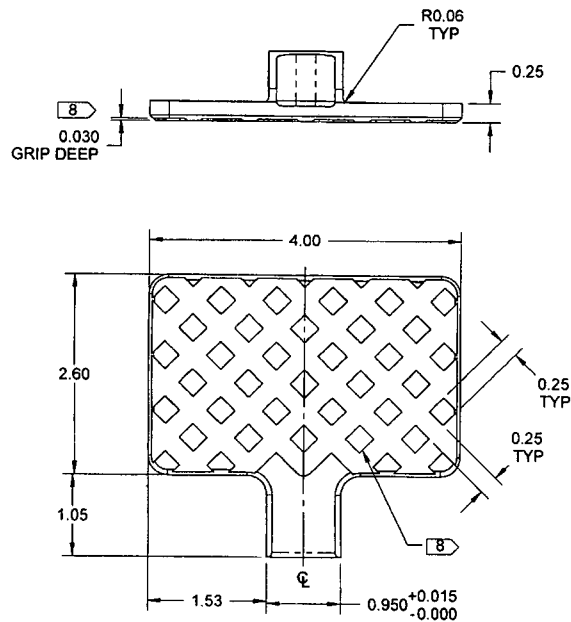
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NOTE: Date & initial all entries



D4101-3 STEP

NOTES:

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)
OR ASTM B211 OR ASTM B221
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.27 lbs
- 8) MACHINE 0.25 x 0.25 GRIP 0.030 DEEP AT 45° PATTERN 0.25 APART

w/o 6/8/89

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2010-08-23

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MFG. APPR.	<i>[Signature]</i>	D4101	SHEET 4 OF 5
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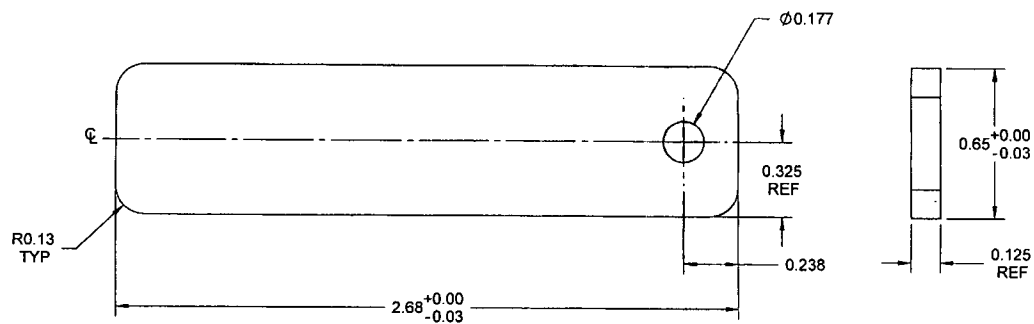
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D4101-5 SPRING



WLO 61819

RELEASED
2010-08-23

AMP

NOTES:

- 1) MATERIAL: F60029-GY3778 DARK GREY LEXAN SHEET (HEAVY HAIRCELL TEXTURE) 0.125 THICK
REF DART SPEC MLEXS.125-F60029-04
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.01 lbs

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
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